The Description and Use of the NOCTURNAL; By Mr. Samuel Foster, late Reader of Astronomy in Gresham-College.

With the Addition of a Ruler, *shewing the Measures of Inches and other Parts of most Countries, compared with our* English *ones; Being useful for all Merchants & Tradesmen.*

THIS *Nocturnal* is made of two *Plates*; the thick *Plate* (which I call the *Mater*) and a *Moveable Plate*, representing the *Æquinoctial*. On the *Mater*, the *Circle* doth represent the *Ecclipstick*. All the rest of the Writing, is the Names of as many of the *Fixed Stars* as the bigness of the Instrument will give leave. To these must be added an *Index* or *Label*, fastned at the *Center*, to cut the several *Circles* upon the Instrument.

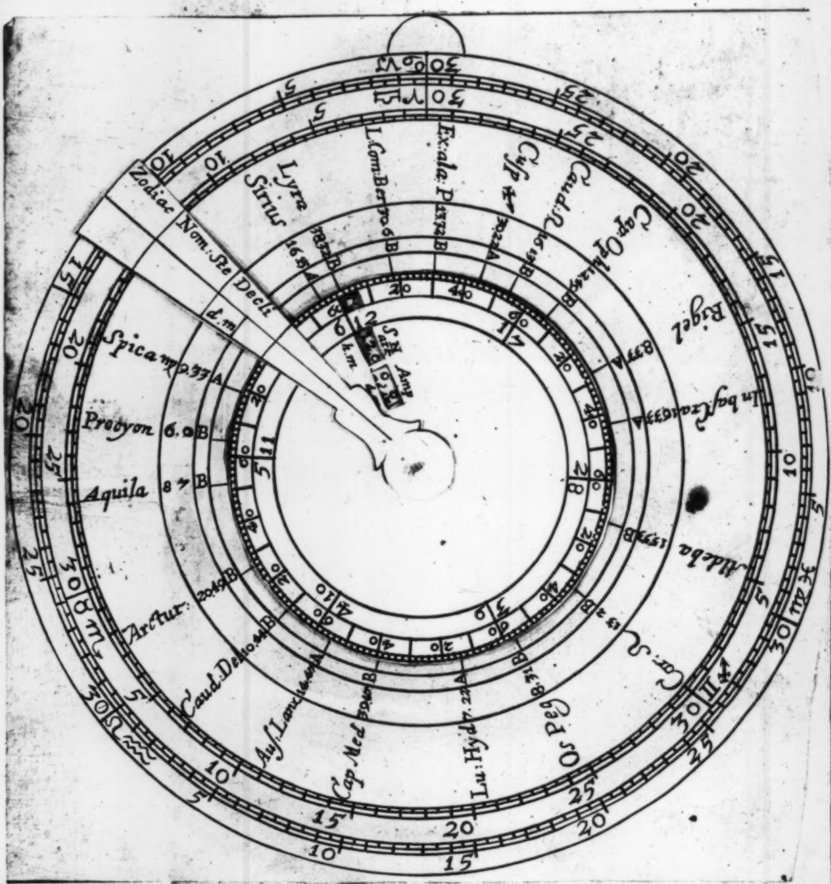
The Use of the Nocturnal.

1. SET the *Label* to the *Sun's* Place in the *Zodiack*, and the *Hour* of *Twelve* in the *Æquinoctial* to the Star, whose time of coming to the *Meridian* you enquire after; and then look what hour and minute is cut by the *Label* in the *Æquinoctial*, for that is the hour of the Day or Night that the same Star will come to the *South* Part of the *Meridian*.

But you must observe, that the hours are marked in the *Æquinoctial* in this manner, { 12, 1, 2, 3, 4, 5, } { 6, 7, 8, 9, 10, 11. }

Now the Difficulty lyeth, in finding whether the minutes you shall find cut by the *Label* in the *Æquinoctial*, doth be-

long



Zodiac
Nom: Ste
Decli
d. m
Lyra
Sirius
L. Com: Bereni
Ex: ala: Pegasi
Cusp
Caud: R
Cap: Ophiu
Rigel
In bas: Cassiop
Aldeba
Car: ♌
Os Peg
Lu: Hyd
Cap: Med
Aus: Lanx
Caud: Delph
Arctur
Aquila
Procyon
Spica
Amp

The Deſcription and Uſe of the NOCTURNAL; By M. Samuel Foſter, late Reader of Aſtronomy in Greſham-College.

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The Uſe of the Nocturnal.

1. SET the *Label* to the *Sun's* Place in the *Zodiack*, and the *Hour* of *Twelve* in the *Æquinoctial* to the Star, whoſe time of coming to the *Meridian* you enquire after; and then look what hour and minute is cut by the *Label* in the *Æquinoctial*, for that is the hour of the Day or Night that the ſame Star will come to the *South* Part of the *Meridian*.

But you muſt obſerve, that the hours are marked in the *Æquinoctial* in this manner, { 12, 1, 2, 3, 4, 5, 6 / 6, 7, 8, 9, 10, 11. }

Now the Difficulty lyeth in finding whether the minutes you ſhall find cut by the *Label* in the *Æquinoctial*, doth be-

long

long to the upper row of hours, *Viz.* 12, 1, 2, 3, 4 5, or to the under row, *Viz.* 6, 7, 8, 9, 10, 11; and whether from *Noon*, or from *Midnight*: In order to this you must know in what Sign the Star is that you observe, and take notice how far it is distant from the Place where the ☉ is that day; if it be not above three whole *Signs*, the Minute cut by the *Label*, belongeth to the upper row of hours to be accounted from *Noon*; and if the Distance of the Star, and of the ☉ be four, five, or six *Signs*, then the said Minute cut by the *Label* belongeth to the under row of hours, accounted also from *Noon*: but if the Distance of the ☉ and Star be 7, 8, or 9 *Signs*, then the *Minute* belongeth to the upper row of hours accounted from *Midnight*. Lastly, if the Distance of the ☉ and Star be 10, 11, or 12 *Signs*, then the *Minute* belongeth to the under row of hours, accounted from *Midnight*. All which beforesaid shall be made clear by *Examples*.

Example the first. The ☉ being in the beginning of ♌; when will *Spica* ♍ come to the *Meridian*? Set the *Label* to the beginning of ♌, and the hour 12 in the *Æquinoctial* to *Spica* ♍ then will the *Label* cut the 59*th*. *Minute* after 4, or after 10; now this Star being in ♎, which is not above three *Signs* from ♌, it must be after 4 of the Clock from *Noon*. I conclude then that the ☉ being in the beginning of ♌, the *Spica* ♍ will come to the *South* at 4$^{h.}$ 59$'$ past Noon.

Example II. When will the same Star come to the *Meridian*, the ☉ being in the 10*th*. degree of ♊? The *Label* being set to the 10 of ♊, and 12 to the Star, as before, the *Label* shall cut the 35 *Minute* after 2 or 8; now it must be after 8, because the ☉ is above three *Signs* distant from the Star, and yet not seven *Signs*; so *Spica* ♍ will come to the *Meridian* at 8$^{h.}$ 35$'$ past *Noon*.

Example III. When will the same *Spica* ♍ come to the *Meridian*, the ☉ being in ♓ the 5*th*. *Degree*?

The

The *Label* being ſet to the 5° of ♐, ſhall cut 41′ after 2, or 8; but it muſt be 2, and after *Midnight* paſt, becauſe the diſtance of the ☉ and the Star is above ſix whole *Signs*, and not nine.

Example IV. Working after the ſame manner, you will find that the ſame Star will come to the *Meridian* at 9 *h.* 58′ paſt *Midnight*, the ☉ being in the 20° 00′ of ♏. I take the lower row of hours, and ſay, that 'tis after *Midnight*, becauſe the ☉ is above nine *Signs* diſtant from the Star. *NB.* Theſe Precepts are fitted to an *Inſtrument* made for 1671.

Additions to the Inſtrument, in Braſs; *made by Mr.* R. Aug. 1*ſt.* 1684.

Calculated for the Year 1700, which will make ſome little difference in the aforeſaid Precepts.

IF in this Inſtrument you ſet down to the ſeveral Stars their reſpective ſeveral *Declinations*, and by adding either an *A*, or *B*, according to the *Declination* of either *Auſtral* or *Boreal*, you ſhall have the height of the Star when it cometh to the *Meridian*, *Viz.* by adding the *Declination* to the height of the *Æquinoctial*, when the ſaid *Declination* is *Northward*, and by taking the *Declination* from the height of the *Æquinoctial* when the *Declination* is *Southward*.

As for *Example*. Suppose I desire to know when ☌ ☊ shall come to the *Meridian*, what will be his *Altitude* in the *Latitude* of *London* 51° 30′. The height of the *Æquinoctial* is 38° 30′, to which add the Stars *North Declination*, 13° 02′ { 38° 30′ / 13 02 } the Summe is 51° 32′ the *Altitude* required.

So the *Altitude* of the *Spica* ♍ in the *Meridian* will be found to be 28° 57′ in the same *Latitude*; for the height of the *Æquinoctial* is 38° 30′; from which take the Stars *South Declination* 9° 33′, the Remainder is 28° 57′.

I have so contrived this Instrument, that by making two little square holes in the Moveable Plate, the first sheweth you in what *Sign* the Star is, which is absolutely necessary to be known, to judge of the distance between the ☉ and the Star (as you have been taught before) and the second shews the Magnitude of the Star.

To know at any time proposed, what Point of the Ecclyptick is in the Meridian.

Suppose the ☉ to be in the beginning of ♉, I desire to know what Degree of the *Ecclyptick* shall be in the *Meridian* at 15′ past Five in the *Afternoon*.

I lay the hour given to the *Sun*'s Place, and then I find over against the 12 a Clock line of the *Æquinoctial*, 15° 28′ of ♎; and that is the Degree that was then in the *Meridian*.

To know when any of the Planets *shall come to the Meridian.*

The *Planets*, because of their continual changing of Place, cannot be set fixt in this *Nocturnal*: Nevertheless, if at any time you desire to know their time of coming to the *Meridian*, you must look in some *Ephemeris* for the Place of the Planet, and according as you find it, set it with *Black-Lead* on your Instrument, which if it be in *Brass*, shall be easily put out. The *Planet* thus set, shall be as a *Fixed*

Star

Star, and its time of coming to the *Meridian* found out, as that of any of the *Fixed Stars*.

But Note, that if it be the *Moon* that you obſerve, you muſt allow about a degree for every two hours paſt ſince *Noon*; and thus you ſhall have her true Place; for the *Ephemeris* gives you her Place only at *Noon*.

For *Example*. *When will the* Moon *come to the* Meridian on *January the 1ſt*. $168\frac{4}{5}$?

The ☉ is then in ♑ 22° 5′, and the *Moon* in ♈ 10° 12′. Now placing the *Moon* on my Inſtrument in ♈ 10° 12′, I find that the *Moon* ſhall come to the *Meridian* at a little paſt 5 in the *Afternoon*: and becauſe there are five hours paſt ſince *Noon*, I muſt for theſe five hours allow two degrees and a half to the *Moon's* Place, and ſo ſet it to ♈ 13° 00′; which being done, I ſhall find the *Moon's* true hour of coming to the *Meridian*, and that is at about 5 *h*. 15′ paſt Five in the *Afternoon*.

Hitherto is the Inſtrument general to all thoſe that live on this ſide the *Æquoctial*, and may ſerve to any Intelligent Man that ſhall have *South Declination*.

But beſides, I have made two little Windows in the Moveable Plate, but the Figures of them are Calculated for the *Meridian* of *London*, or any other Place that is under the ſame Latitude of 51° 30′.

The firſt Window ſhews the *Semi-Nocturnal* Arch of the *Star* in Hours and Minutes; and the uſe of it is to know the time of the *Stars Riſing* and *Setting*, as alſo how long it continues above the *Horizon*.

Firſt. For the *Riſing*, take the *Semi-Nocturnal Arch* from the time of the Stars comiug to the *Meridian*, and the Remainder gives you the time of the Stars Riſing. So the ☉ being in the beginning of ♍, the *Spike* of the *Virgin* comes to the *Meridian* at 9 *h*. 18′ after *Noon*, from which take the Stars ——— 5 11, *Semi-Nocturnal Arch*, there remains ——— 4 07, which is the time of the Stars Riſing in the *Afternoon*.

Secondly, For the Setting, add the *Semi-Nocturnal Arch* to the time of coming to the *Meridian*, and the Summe gives the time of the Stars Setting.

So on the same day, the ☉ being in the beginning of ♊, the *Spike* of the *Virgin* coming to the *Meridian* at 9*h.* 18′ if you add to it the Star's *Semi-nocturnal Arch*, 5 11′ the Summe is 14*h.* 29′ past *Noon*, or 2*h.* 29′ past *Midnight*.

Thirdly, For the time of the Stars being above the *Horizon*, double the *Semi-Nocturnal Arch*, and the Summe is the time of the Star's being above the *Horizon*.

The other Window sheweth the Star's Amplitude in Degrees and Minutes, which is counted from the *East* towards the *North*, when the Star's *Declination* is *North*; and from the *East* to *South*, when the *Declination* is *South*: Where note, that the *Stars* Set at the same Distance from the *West* that they Rise from the *East*.

This *Instrument* was first invented by Mr. *Samuel Foster*, and given to me, drawn upon *Pasteboard* by his own hand, which is still in my Power; but the Additions to it were put in by an Ingenious Gentleman of the *French* Nation, and by him drawn in *Brass*, which I received from him, and will keep for his sake.

The following Table is made to infert all the Stars expressed there according to their *Right Ascensions*, which is fourfold as great as the true is, the Nature of the Instrument requiring it to be so; because the *Æquinoctial*, which should be divided into twenty four hours, is divided but into six hours.

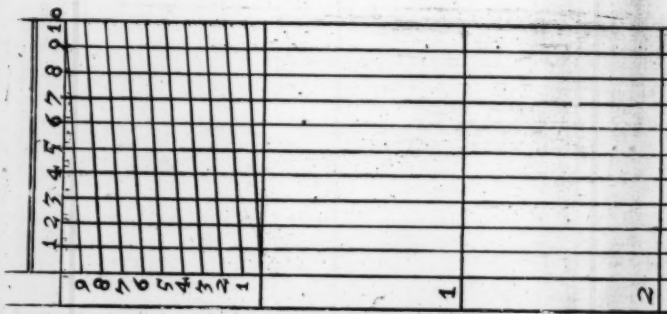
A Table

A Table

	A. R.	AsRec.4.	Decli.	Semi-Diurnal Arch.	Amplit.
	° ′			h. mi.	
Lucid. Comæ Beren. ♎	182 45	731 00	30 06	8 48	53 30
Lucid. Lyræ ♑.	276 42	1106 48	38 32	24 00	00 00
Syrius. ♐.	98 00	392 00	16 15	4 33	26 43
Vindemiatrix. ♍.	191 53	767 32	12 35	7 05	20 30
Spica Virginis. ♍.	197 23	789 32	9 33	5 11	15 27
Procyon. ♋.	110 57	443 48	6 00	6 30	9 40
Aquila. ♑.	294 06	1176 24	8 07	6 41	13 07
Luc. cap. Arieties. ♈.	27 38	110 32	22 03	8 04	37 05
Arcturus. ♌.	210 34	842 16	20 49	7 55	34 49
Cauda Delphin. ♒.	304 30	1218 00	10 14	6 54	16 35
Auftra lanx ♎. ♌.	218 37	874 28	14 45	7 17	24 09
Cap. Medus. ♉.	42 15	169 00	39 47	12 00	00 00
Bo. lanx. ♎. ♌.	225 16	901 04	8 14	5 18	13 18
Luc. Hydr. ♌.	138 16	553 04	7 22	5 22	11 53
Luc. Pleiad. ♉.	52 26	209 44	23 10	8 11	39 12
Luc. Coron. Sep. ♌.	230 31	922 4	27 45	8 46	48 25
Os Pega. ♒.	322 28	1289 52	8 31	6 44	13 46
Med. nex. col. Serp: ♌	232 27	929 48	7 25	6 38	11 52
Bo. Fron. Scor. ♌.	237 02	948 08	18 57	4 18	31 27
Antares ♐. cor ♏.	242 50	971 20	25 42	3 30	44 00
Cor Leonis. ♌.	148 08	592 32	13 02	7 08	21 15
Luc. colli Leonis. ♌.	150 51	603 24	21 21	7 58	35 48
Luc. colli Peg. ♑.	336 30	1346 00	09 10	6 47	14 50
In baſi Crater. ♍.	161 10	644 40	16 33	4 32	27 14
Marchab. Pega. ♓.	342 30	1370 00	13 37	7 11	22 13
Rigel. ♎.	75 07	300 28	8 33	5 16	13 49
Sin. Hum. Orion. ♊.	77 17	309 08	6 03	6 31	9 45
Cing. Orion. ♊.	80 18	321 12	1 24	5 54	2 15
Caput Ophiuci. ♐.	260 16	1041 04	12 49	7 06	20 52
Cauda Leonis. ♍.	173 28	693 52	16 13	7 26	26 39
Seq. Hum. Orion. ♊.	84 48	339 12	7 20	6 37	11 50
Cuſpis Sagit. ♐.	266 00	1064 00	30 22	2 50	54 18
Cap. Andromed. ♓.	358 16	1433 04	27 28	8 44	47 48
Extrem. ala Pegas. ♓.	359 30	1438 00	13 32	7 10	22 05
Aldeban Tauri. ♉.	64 43	258 52	15 53	7 24	26 05

		The 5.	10	15	20	25
	° ′	° ′	° ′	° ′	° ′	° ′
♈ ♎	00 00	18 20	36 44	55 12	73 48	92 36
♉ ♏	111 36	130 48	150 16	170 04	190 08	210 32
♊ ♐	231 12	252 08	273 24	294 52	316 28	338 12
♋ ♑	360 00	381 48	403 32	425 08	446 36	467 48
♌ ♒	488 48	509 28	529 52	549 56	569 44	589 12
♍ ♓	608 24	627 24	646 12	664 48	6:3 16	701 40

FINIS.



In the Diagonall Scale you haue London foot Di vided into 1000 Equal parts, Whereof (France)		Amsterdam foot ..	0:942
		Ell	2:269
Paris Foot is .. 1 : 068		Antwerp foot ..	0:948
Lions Ell ... 3 : 976		Brill foot	1:103
Bolonie Ell .. 2 076		Dort foot	1:184
		Leyden foot ...	1:133
The XVII Provinces		Ell	2:260
		Lorain foot ...	0:958
		Mecalin foot .	0:919
		Middleburg foo	0.991

2	3	4	5

Germany	
Strasburg foot	0:920
Bremen foot	0:964
Cologne foot	0:954
Francfort foot Menain foot	0:948
Ell	1:826
Hamburg Ell	1 905
Leipsig Ell	2:260
Lubeck Ell	1 903

Noremberg foot	1: 006
Ell	2:227
Bavaria foot	0:954
Vienna foot	1 053
Spain & Portugall	
Spanish or Castil palm	0:751
Spanish Vare or 3 foot	3:004
Spanish foot	1 : 001
Lisbon Vare	2:750
Gibralter Vare	2:760

Toledo foot	0 : 899
Vare	2:685
Italy	
Roman foot on the Monum of Cosutius	0:967
of Statelius	0 972
Roman foot for building m.r 10 make y Canna	0 721
Bononia foot	1 204
Ell	2 113

[illegible]	0:[illegible]99	Bononian Perch of 500 to a Mile	12:040	*Other Places*		Turkish Pike at Constantinop: the greater	2:20[illegible]
[illegible]	2:685			Danzick foot	0:944	The Greek foot	1:00[illegible]
		Florence Brace, or Ell	1:913	Ell	1:903	Moutons universal foot	0 67[illegible]
[illegible]le [illegible]ius	0:967	Naples Palm	0:861	Copenhagen foot	0:965	A Pendulum of wch length will Vibrate 132 times in a [illegible] minute, A Pendulum of 3 foot 268 parts long will Vibrate 60 times in a minu[te]	
		Brace	2:100	Prague foot	1:020		
		Canna	6:880	Riga foot	1:831		
	0 972	Genoa Palm	0 830	China: cubit	1 016		
[illegible]lding [illegible]na	0 722	Mantua foot	1 569	Turin foot	1 062		
		Milan Calamus	6.544	Cairo cubit	1 824		
[illegible]	1 204	Parma Cubit	1:860	Persian Arash	3 197	Ex: per me Jonas Moor	
[illegible]	2 113	Venice foot	1 162				

Tabula Ascensionum Obliquarum ad Latitudinem 51 *deg.* 00 *min.*

° ′	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
0	0 00	13 21	30 46	57 31	95 10	137 33	180 00	222 27	264 50	302 29	329 14	346
1	0 25	13 50	31 29	58 37	96 33	138 59	181 24	223 52	266 12	303 34	329 56	347
2	0 50	14 20	32 13	59 44	97 56	140 24	182 49	225 17	267 34	304 38	330 38	347
3	1 16	14 50	32 57	60 51	99 19	141 50	184 03	226 43	268 56	305 41	331 19	348
4	1 41	15 20	33 42	61 59	100 42	143 15	185 38	228 08	270 18	306 44	331 59	348
5	2 07	15 50	34 27	63 08	102 06	144 40	187 03	229 34	271 39	307 46	332 38	349
6	2 32	16 21	35 13	64 18	103 30	146 06	188 27	230 59	272 59	308 47	333 16	349
7	2 58	16 53	36 00	65 29	104 54	147 31	189 52	232 25	274 19	309 47	333 54	349
8	3 24	17 24	36 48	66 40	106 18	148 56	191 16	233 52	275 39	310 46	334 32	350
9	3 50	17 56	37 36	67 52	107 42	150 21	192 41	235 17	276 58	311 44	335 10	350
10	4 16	18 28	38 25	69 04	109 07	151 46	194 06	236 42	278 17	312 42	335 47	351
11	4 42	19 01	39 15	70 17	110 32	153 11	195 30	238 08	279 35	313 39	336 23	351
12	5 08	19 34	40 05	71 30	111 57	154 36	196 55	239 33	280 52	314 35	336 58	352
13	5 34	20 07	40 56	72 44	113 22	156 01	198 20	240 58	282 10	315 30	337 31	352
14	6 00	20 40	41 48	73 59	114 47	157 26	199 45	242 23	283 28	316 25	338 04	353
15	6 26	21 14	42 41	75 15	116 12	158 50	201 10	243 48	284 45	317 19	338 36	353
16	6 52	21 49	43 35	76 32	117 37	160 15	202 34	245 13	286 01	318 12	339 08	354
17	7 19	22 25	44 30	77 50	119 02	161 40	203 59	246 38	287 16	319 04	339 38	354
18	7 46	23 01	45 25	79 08	120 27	163 05	205 24	248 03	288 30	319 55	340 08	354
19	8 13	23 37	46 21	80 25	121 52	164 30	206 49	249 28	289 43	320 45	340 36	355
20	8 42	24 13	47 18	81 43	123 18	165 54	208 14	250 53	290 56	321 35	341 02	355
21	9 07	24 50	48 16	83 02	124 43	167 19	209 39	252 18	292 08	322 24	342 04	356
22	9 35	25 28	49 14	84 21	126 09	168 44	211 04	253 42	293 20	323 12	342 26	356
23	10 02	26 06	50 13	85 41	127 35	170 08	212 29	255 06	294 31	324 00	342 48	357
24	10 30	26 41	51 13	87 01	129 01	171 32	213 54	256 30	295 42	324 47	343 09	357
25	10 58	27 22	52 14	88 21	130 26	172 57	215 20	257 54	296 52	325 33	343 26	357
26	11 26	28 01	53 16	89 42	131 52	174 22	216 45	259 18	298 01	326 18	344 40	358
27	11 55	28 41	54 19	91 04	133 17	175 47	218 10	260 41	299 09	327 03	345 10	358
28	12 23	29 22	55 22	92 26	134 43	177 11	219 36	262 04	300 16	327 47	345 40	359
29	12 52	30 04	56 26	93 48	136 08	178 36	221 01	263 27	301 23	328 31	346 10	359
30	13 21	30 46	57 31	95 10	137 33	180 00	222 27	264 50	302 29	329 14	346 39	360

Tabula Ascensionum Obliquarum ad Latitudinem 51 *deg.* 30 *min.*

°	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
0	0 00	13 04	30 12	56 48	94 36	137 15	180 00	222 45	265 24	303 12	329 48	346 56
1	0 24	13 32	30 54	57 54	95 05	138 42	181 23	224 10	266 47	304 17	330 29	347 25
2	0 49	14 01	31 38	59 01	97 24	140 08	182 50	225 36	268 9	305 21	331 11	347 53
3	1 14	14 30	32 21	60 08	98 46	141 34	184 15	227 02	269 32	306 24	331 51	348 21
4	1 39	15 01	33 06	61 16	100 10	143 00	185 40	228 48	270 54	307 27	332 39	348 49
5	2 04	15 30	33 50	62 25	101 35	144 26	187 05	229 54	272 16	308 29	333 09	349 16
6	2 29	16 00	34 35	63 35	102 59	145 52	188 30	231 20	273 37	309 30	333 47	349 44
7	2 54	16 31	35 22	64 46	104 23	147 17	189 56	232 46	274 57	310 30	334 25	350 11
8	3 19	17 02	36 08	65 57	105 48	148 43	191 21	234 13	276 17	311 29	335 2	350 38
9	3 45	17 33	36 37	67 10	107 13	150 09	192 46	235 39	277 36	312 27	335 40	351 05
10	4 10	18 05	37 46	68 22	108 38	151 34	194 12	237 05	278 56	313 24	336 17	351 32
11	4 36	18 37	38 35	69 35	110 03	153 00	195 37	238 32	280 14	314 21	336 52	351 58
12	5 01	19 10	39 26	70 49	111 29	154 25	197 02	239 57	281 32	315 16	337 27	352 25
13	5 26	19 42	49 16	72 03	112 54	155 51	198 28	241 23	282 51	316 11	338 2	352 51
14	5 52	20 14	41 08	73 19	114 21	157 16	199 53	242 49	284 8	317 6	338 38	353 17
15	6 17	20 48	42 01	74 35	115 46	158 44	201 16	244 14	285 25	317 59	339 12	353 43
16	6 43	21 22	42 54	75 52	117 11	160 07	202 44	245 39	286 41	318 52	339 46	354 8
17	7 09	21 58	43 49	77 09	118 37	161 32	204 09	247 6	287 57	319 44	340 18	354 34
18	7 35	22 33	44 44	78 28	120 03	162 58	205 35	248 31	289 11	320 34	340 50	354 59
19	8 02	23 08	45 39	79 46	121 28	164 23	207 00	249 57	290 25	321 25	341 23	355 24
20	8 28	23 43	46 26	81 04	122 55	165 48	208 26	251 22	291 38	322 14	341 55	355 50
21	8 55	24 20	47 33	82 24	124 21	167 14	209 51	352 47	292 50	323 3	342 27	356 15
22	9 22	24 58	48 31	83 43	125 47	168 39	211 17	254 12	293 3	323 52	342 58	356 41
23	9 49	25 35	49 30	85 03	127 14	170 04	212 43	255 37	295 14	324 38	343 29	357 6
24	10 16	26 13	50 30	86 23	128 40	171 30	214 08	257 1	296 25	325 25	344 0	357 31
25	10 40	26 51	51 31	87 44	130 06	172 54	215 34	258 25	297 35	326 10	344 30	357 36
26	11 11	27 30	52 33	89 05	131 32	174 20	217 00	259 59	298 44	326 54	344 59	358 21
27	11 39	28 09	53 36	90 28	132 58	175 45	218 26	261 14	299 52	327 39	345 35	358 46
28	12 07	28 49	54 39	91 51	134 24	177 10	219 52	262 36	300 59	328 22	345 59	359 11
29	12 35	29 31	55 43	93 13	135 50	178 35	221 18	264 1	302 6	329 6	346 28	359 36
30	13 04	30 12	56 48	94 36	137 15	180 00	222 45	265 24	303 12	329 48	346 56	360 0

Tabula Ascensionum Obliquarum ad Latitudinem 52 *deg.* 00 *min.*

°	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
0	00 00	12 48	29 42	56 11	94 06	137 03	180 9	223 0	265 54	303 4	330 18	347 12
1	00 24	13 16	30 24	57 17	95 30	138 27	181 25	224 26	267 17	304 54	330 59	347 48
2	00 48	13 45	31 7	58 24	96 54	139 54	182 51	225 52	268 40	305 58	331 39	348 24
3	1 13	14 14	31 50	59 31	98 18	141 20	184 16	227 19	270 3	307 1	332 19	348 36
4	1 37	14 43	32 34	60 39	99 42	142 47	185 42	228 45	271 26	308 4	332 58	349
5	2 02	15 12	33 18	61 48	101 9	144 13	187 8	230 12	272 48	309 6	333 37	349 24
6	2 26	15 42	34 3	62 58	102 32	145 40	188 33	231 38	274 9	310 7	334 15	349 48
7	2 51	16 13	34 49	64 09	103 57	147 6	189 59	233 5	275 49	311 7	334 52	350 12
8	3 15	16 43	35 36	65 20	105 22	148 32	191 25	234 32	276 50	312 6	335 29	350 48
9	3 40	17 14	36 24	66 32	106 47	149 58	192 51	235 58	278 10	313 4	336 6	351 12
10	4 5	17 45	37 12	67 45	108 12	151 24	194 17	237 25	279 30	314 1	336 42	351 48
11	4 30	18 16	38 1	68 59	109 38	152 50	195 42	238 52	280 49	314 57	337 17	352
12	4 55	18 48	38 51	70 13	111 4	154 16	197 8	240 18	282 8	315 52	337 52	352 36
13	5 20	19 20	39 42	71 28	112 30	155 42	198 34	241 45	283 26	316 47	338 28	352 54
14	5 45	19 52	40 34	72 44	113 56	157 8	200 0	243 11	284 43	317 41	339 1	353 24
15	6 10	20 25	41 26	74 0	115 23	158 34	201 26	244 37	286 00	318 34	339 35	353 50
16	6 35	20 59	42 19	75 17	116 49	160 0	202 52	246 4	287 16	319 26	340 8	354 16
17	7 1	21 34	43 13	76 34	118 15	161 26	204 18	247 30	288 32	320 18	340 40	354 40
18	7 26	22 08	44 8	77 52	119 42	162 52	205 44	248 56	289 47	321 9	341 12	355 3
19	7 52	22 43	45 3	79 11	121 8	164 18	207 10	250 22	291 1	321 59	341 42	355 30
20	8 18	23 18	45 59	80 30	122 35	165 43	208 36	251 48	292 15	322 48	342 15	355 55
21	8 44	23 54	46 56	81 50	124 2	167 9	210 2	253 13	293 28	323 36	342 46	356 20
22	9 11	24 31	47 54	83 10	125 28	168 35	211 28	254 38	294 40	324 24	343 17	356 46
23	9 37	25 08	48 53	84 31	126 55	170 1	212 54	256 3	295 51	325 11	344 18	357 9
24	10 4	25 45	49 53	85 51	128 22	171 27	214 20	257 28	297 2	325 57	344 18	357 34
25	10 31	26 23	50 54	87 12	129 48	172 52	215 47	258 53	298 12	326 42	344 48	357 58
26	10 58	27 2	51 56	88 34	131 15	174 18	217 13	260 18	299 21	327 26	345 17	358 23
27	11 25	27 41	52 59	89 57	132 41	175 44	218 40	261 42	300 29	328 10	345 46	358 47
28	11 53	28 21	54 2	91 20	134 8	177 9	220 6	263 6	301 36	328 53	346 15	359 12
29	12 20	29 01	55 6	92 43	135 34	178 35	221 33	264 30	302 43	329 36	346 44	359 36
30	12 48	29 42	56 11	94 06	137 00	180 9	223 0	265 54	303 49	330 18	347 12	360 0

Tabula Ascensionum Obliquarum ad Latitudinem 53 *deg.* 00 *min.*

°	♈	♉	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓
0	0 0	12 14	28 34	54 46	92 58	136 26	180 0	223 34	267 2	305 14	331 26	347 46
1	0 23	12 41	29 15	55 52	94 23	137 54	181 26	225 1	268 27	306 20	332 6	348 13
2	0 40	13 8	29 57	56 59	95 48	139 22	182 53	226 29	269 51	307 25	332 45	348 40
3	1 09	13 36	30 39	58 6	97 13	140 49	184 20	227 56	271 15	308 28	333 24	349 6
4	1 32	14 4	31 22	59 14	98 38	142 17	185 47	229 24	272 38	309 30	334 2	349 32
5	1 56	14 32	32 6	60 23	100 4	143 44	187 14	230 52	274 0	310 31	334 40	349 58
6	2 19	15 1	32 51	61 33	101 30	145 12	188 40	232 19	275 22	311 31	335 17	350 24
7	2 43	15 30	33 36	62 44	102 56	146 39	190 7	233 47	276 44	312 30	335 53	350 50
8	3 6	15 59	34 22	63 56	104 22	148 7	191 34	235 15	278 5	313 29	336 29	351 15
9	3 30	16 29	35 8	65 9	105 48	149 34	193 1	236 43	279 26	314 27	337 4	351 40
10	3 54	16 59	35 55	66 22	107 15	151 1	194 28	238 11	280 47	315 24	337 39	352 5
11	4 17	17 29	36 43	67 36	108 42	152 29	195 55	239 19	282 7	316 21	338 13	352 30
12	4 41	18 0	37 32	68 51	110 9	153 56	197 22	241 6	283 26	317 16	338 47	352 55
13	5 5	18 31	38 22	70 6	111 36	155 23	198 49	242 34	284 45	318 10	339 20	353 19
14	5 26	19 2	39 11	71 22	113 4	156 50	200 16	244 1	286 3	319 8	339 53	353 43
15	5 53	19 34	40 5	72 39	114 32	158 17	201 43	245 28	287 21	319 55	340 25	354 7
16	6 17	20 7	40 57	73 57	115 59	159 44	203 10	246 56	288 38	320 47	340 58	354 31
17	6 41	20 40	41 50	75 15	117 26	161 11	204 37	248 24	289 54	321 38	341 29	354 55
18	7 5	21 13	42 44	76 34	118 54	162 38	206 4	249 51	291 9	322 28	342 0	355 19
19	7 30	21 47	43 39	77 53	120 21	164 5	207 31	251 18	292 24	323 17	342 31	355 43
20	7 55	22 21	44 36	79 13	121 49	165 32	208 59	252 45	293 38	324 5	343 1	356 6
21	8 20	22 56	45 33	80 34	123 17	166 59	210 26	254 12	294 51	324 52	343 31	356 30
22	8 45	23 31	46 31	81 55	124 45	168 26	211 53	255 38	296 4	325 38	344 1	356 54
23	9 10	24 7	47 30	83 16	126 13	169 53	213 21	257 4	297 16	326 24	344 30	357 17
24	9 36	24 43	48 29	84 38	127 41	171 20	214 48	258 30	298 27	327 9	344 59	357 41
25	10 2	25 20	49 29	86 0	129 8	172 46	216 16	259 56	299 37	327 54	345 28	358 4
26	10 28	25 58	50 30	87 22	130 36	174 13	217 43	261 22	300 46	328 38	345 56	358 28
27	10 54	26 36	51 32	88 45	132 4	175 40	219 11	262 47	301 54	329 21	346 24	358 51
28	11 20	27 15	52 34	90 9	133 31	177 7	220 38	264 12	303 1	330 3	346 52	359 14
29	11 47	27 53	53 40	91 33	134 59	178 34	222 6	265 37	304 8	330 45	347 19	359 37
30	12 14	28 34	54 46	92 58	136 26	180 0	223 34	267 2	305 14	331 26	347 46	360 0